

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

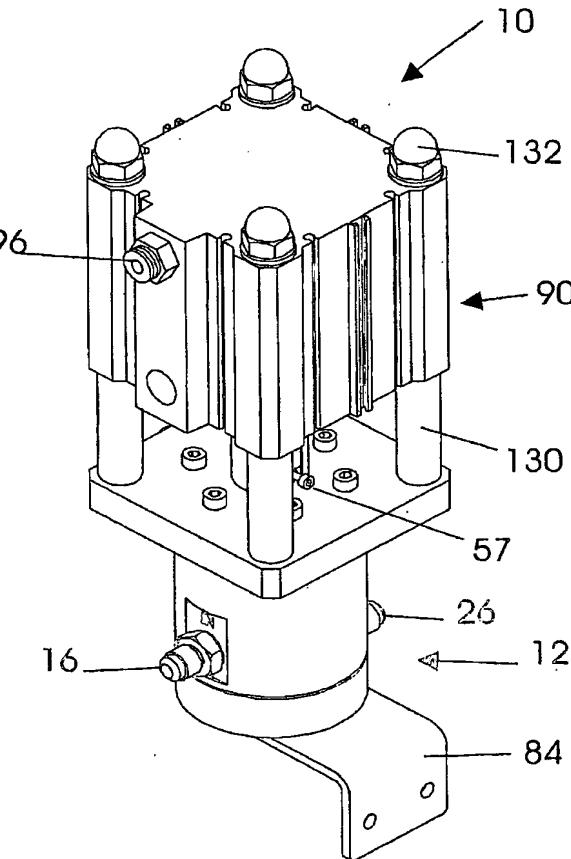
PCT

(10) International Publication Number
WO 2005/005059 A1

- (51) International Patent Classification⁷: B05B 12/08,
B05C 11/10, G05D 16/10
- (21) International Application Number:
PCT/EP2004/051367
- (22) International Filing Date: 6 July 2004 (06.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
203 10 832.9 14 July 2003 (14.07.2003) DE
- (71) Applicant (for all designated States except US): NORD-SON CORPORATION [US/US]; 28601 Clemens Road, Westlake, Ohio 44145 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): DE LEEUW, Victor
- (53) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: PRESSURE REGULATOR



(57) Abstract: Pressure regulator with partial volumes for regulating the operating pressure of fluids, in particular adhesives, at the inlet of a consuming device, the first partial volume (14) being connectable to a fluid source and the second partial volume (24) being connectable to the fluid inlet of the consuming device, wherein the second partial volume (24) has a cylindrical section(24a) of variable size, a connecting channel (22) connecting the first (14) and the second (24) partial volumes, a valve disposed in the first partial volume for opening and closing the connecting channel, said valve having an insert (23) and a movable sealing piston (32), the front end of which forms a sealing body (34) for closing the connecting channel and the rear end of which is sealed against the first partial volume. A working piston (54) is disposed in the cylindrical section (24a) for changing the volume thereof, with a front end (59) facing the cylindrical section and the sealing piston, and with a piston rod (56) for moving the sealing piston, said piston rod (56) engaging the front end (59) of the sealing piston and forming an endstop for same. The rear end of the sealing piston and the front end of the working piston are exposed to the pressure of the fluid in the second partial volume (24) while a movable adjuster piston (92) is provided to which compressed air can be applied and which is coupled to the endstop that determines the extent to which the valve opens between its closed and its open positions.

WO 2005/005059 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *with international search report*